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REMAINS OF PREHISTORIC MAN IN THE DAKOTAS¹

By HENRY MONTGOMERY

The work of exploration of the remains of prehistoric man in Dakota Territory was begun by me in the summer of 1883, and since then I have completed the exploration of 40 of the ancient artificial mounds in that region, have inspected the exterior of very many others, and have examined numerous specimens obtained from the latter. Twenty-four of the mounds explored were in Ramsey county, 8 were in Benson county, 6 in Walsh county, and 2 in Grand Forks county. Others studied to some extent were in these and other counties of what is now North Dakota, and still others were on the Fort Sisseton reservation and elsewhere in South Dakota.

These mounds may be classified as follows :

1. Burial mounds.
2. Ceremonial or feast mounds.
3. Beacon mounds.

There were 37 burial mounds, 2 probably ceremonial, and only 1 beacon mound.

1. *Burial Mounds: their Structure, Situation, and Contents.*— Of the burial mounds, or mounds of sepulture, there are two or more kinds, namely :

(A) The ordinary burial mound of most frequent occurrence, of which external views are shown in plate xxx, *a*. This consists of a circular, rounded, or conical heap of earth, mostly rich black soil from the prairie, clothed with grass and rising generally to a height of several feet above the surrounding land. The height ranges from a few inches to more than 12 feet, and the diameter from 30 to 90 feet. Doubtless these mounds were originally much higher, the winds and rains having reduced their height very considerably. There is good reason to believe that a large number of them have

¹ Read before the Anthropological Society of Washington, March 13, 1906.



MOUNDS IN NORTH DAKOTA

a. View of field in Walsh county, showing four mounds in the distance. *b.* Burial pit after the removal of the mound and with the contents of the pit undisturbed.

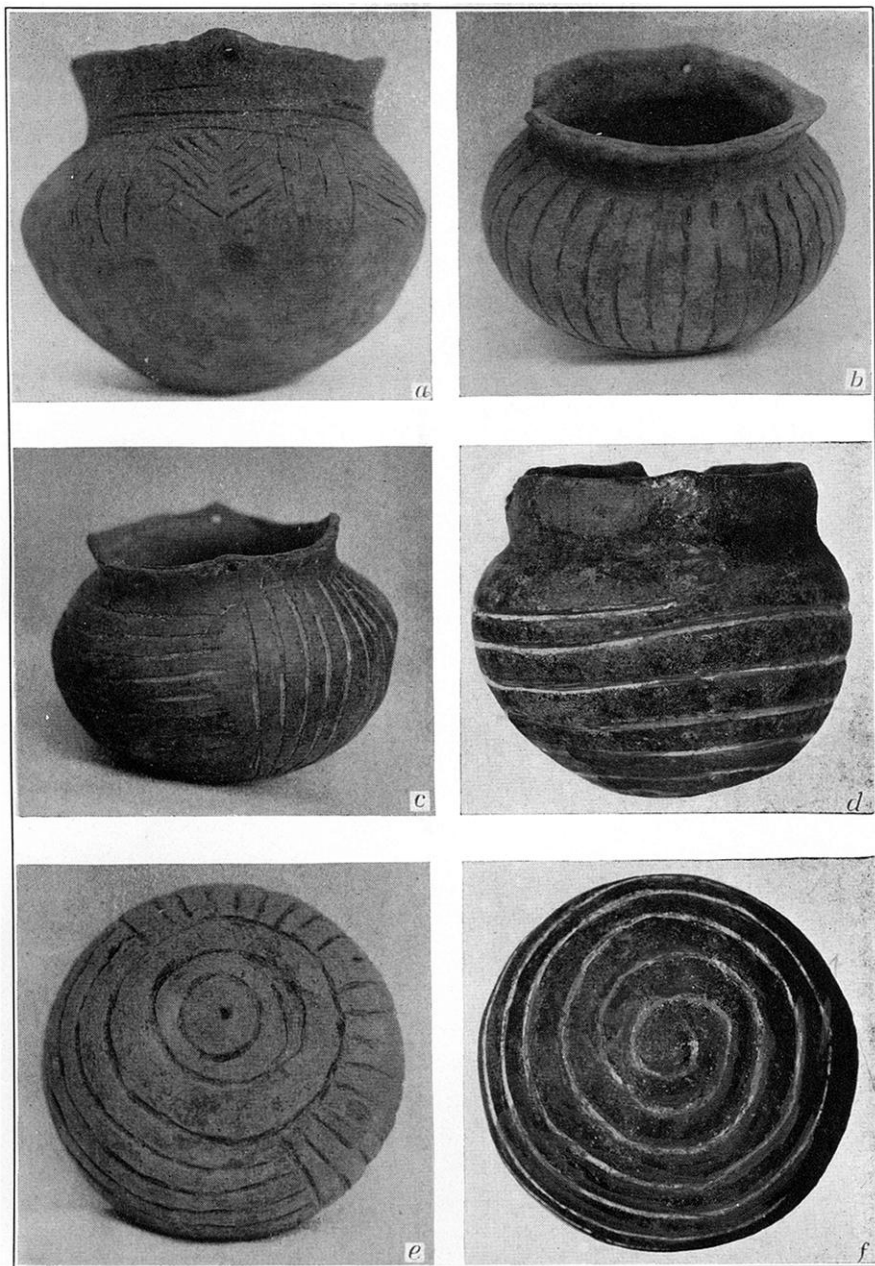
been worn down to the surrounding level, and therefore are not likely ever to be discovered. All burial mounds of class A examined bore evidence of having been blown or washed toward the southeast, as might be expected where the prevailing winds are from the northwest. In each such mound one or more burial pits occur, in which human skeletons and various implements, ornaments, and other articles are found. If but one burial pit occurs, it is nearly always centrally situated. If two or more pits occur in one mound they are all excentric in situation, and from a few inches to several feet distant one from another. The pit or burial chamber is circular. In only one case have I seen it vary from the cylindrical form, and in this instance it was merely a little irregular. I have never found one to be rectangular or square. It is a well-like excavation in the ground, having a calcareous bottom and wall, and sometimes also a calcareous covering consisting of a whitish-yellow layer an inch or two in thickness. The lining as well as the covering is a mixture of lime and clay. The bottom of the chamber was overspread with bark of some tree, often the elm; and upon this bark rested almost a foot of finely pulverized yellow clay, which in turn was surmounted by rich, black soil similar to that constituting the general soil of the region. The pit ranged from 3 feet to 7 feet 5 inches in diameter, the average being about $3\frac{1}{2}$ or 4 feet. Its depth ranged from 2 to 4 feet, while its bottom was often 6 or 8 feet or more below the summit of the tumulus. In my work of excavation I proceeded to dig the sod and earth from the surface of the mound to a depth of about one foot, over an area 15 feet in diameter, with the center of the mound for its center. Then another thickness of similar size was removed, and thus the depth of the excavation was increased foot by foot, always keeping a level floor in order that the situation of the burial chamber or chambers might be more readily determined. Wood was found from a foot to three feet down. This consisted of poles, the trunks of young trees, principally elm and oak, varying in diameter from 3 to 10 inches, charred at their ends and over their entire surfaces. When the yellow subsoil was reached it was carefully scraped off to the depth of two or three inches, when the pit or grave was at once perceived as a circular area of soft black soil surrounded by yellowish-white clay. This is shown in plate xxx, b,

which represents a mound on section 12, range 65, township 153, on the west side of Creel's bay, Devils lake, Ramsey county. This view was taken immediately after the location of the pit and before any of its contents had been disturbed. I then proceeded to remove the loose black earth, and soon came to the yellow clay, a human skeleton, an earthenware urn, a shell scoop or spoon, a birch-bark basket, a turtle-shell, and several shells of large Unios. The skeleton was generally found in a crouching posture, with the back against the wall and the face toward the center, the *ossa innominata* upon the tarsal bones, and the shoulders, head, and hands upon the knees. It occasionally happened that the weight of the overlying wood and earth had forced the skull and upper parts of the body forward or to one side, but the position in which the pelvic and leg bones and the lumbar and sacral vertebræ were found, in all cases determined the original position of the whole body. The utensils, ornaments, and trinkets were usually found beneath the skull and the chest. Occasionally, however, an urn was found in the upper part of the burial pit, and in one instance an urn containing decomposed twigs and leaves was found immediately above the pit.

The preservative properties of the yellow clay are more effectual than those of the black soil, and this perhaps may be a reason for the use of the former in the manner stated.

(B) The second kind of burial mound in several respects resembles the one just described, but differs in having no burial chambers and no wood, in the skeletons being greatly broken and defective, and in the bones being much scattered throughout the mound.

(c) There is perhaps a third variety of burial mound in this district. The principal characteristic by which it is distinguished from the second class (B) is the possession of a layer of yellow clay two or three inches thick, which extends through the greater part of the tumulus and seems to overlie human bones. This may correspond in some measure to the covering of the pit or to the pit itself, described in the first class (A). In this last class (c), however, there is no real chamber or excavation, and the layer of yellow clay is found two or three feet above the original surface of the ground.



POTTERY FROM NORTH DAKOTA

a. Urn of pottery; height, $2\frac{1}{2}$ 'n., greatest width, 3 in.; taken from burial pit in Ramsey county, July 25th, 1883. *b.* Urn of pottery, having holes in the rim; found in pit in Mound 7, Section 12, R. 65. *c.* Urn of pottery, with four holes in its rim. *d, f.* Side and bottom views of urn of pottery showing a continuous spiral groove; found in burial pit in Ramsey county, July, 1883. *e.* Under surface of urn of pottery from pit in Mound 7 on Section 12, R. 65.

All the burial mounds contain near the surface numerous bones of bison, deer, and other animals, which have been broken as if in the process of making use of the flesh as food.

2. *Ceremonial or Feast Mounds*. — These had no burial pits, but contained pieces of partially burnt bones of men and beasts.

3. *Beacon Mounds*. — One mound in Benson county consists largely of burnt clay.

The location, dimensions, and contents of a few of the mounds are here given :

MOUNDS IN RAMSEY COUNTY

These were situated on high ground on the north side of Devils lake, the surface of which is about 1,430 feet above the level of the sea.

Mounds on Section 13, Range 65, Township 153

Mound 1. — This mound was circular in form, 60 feet in diameter and 5 feet in height, but as it had been cultivated for a garden and a green-house its height and internal structure could not be ascertained with accuracy. The burial pits were only partially made out. Considerable quantities of wood and charcoal were unearthed, the wood consisting of poles charred on their surfaces and at their extremities. Besides these poles the following were taken from this mound :

(a) Fifteen human skeletons. Of these only a few were in good enough condition to admit of being removed. The antero-posterior diameter of one of the skulls found here measures 7.75 inches, and its transverse diameter 5.875 inches ; hence the cranial index is 75.8 and the skull is mesocephalic.

(b) One urn or vase of pottery, in a perfect state of preservation. It is $3\frac{1}{4}$ inches high ; its greatest width is $4\frac{1}{4}$ inches, while the diameter of its flaring-rimmed mouth is $3\frac{1}{4}$ inches. The mouth is circular and the external surface is ornamented by a continuous, winding groove extending ten times around the vessel from the rim to the center of the bottom, where it terminates in a cross. The material of which the urn is made appears to be fine-grained. This specimen was found close to a woman's skull. Indeed every

earthen vessel of this kind thus far discovered has been found with a skeleton having all the characters of that of a female.

(c) One copper socket for the handle of a knife. This has copper rivets and several rivet-holes. It is $4\frac{3}{4}$ inches in length, and is $1\frac{1}{4}$ inch wide at one end and $\frac{3}{4}$ inch wide at the other.

(d) Three stone pipes of different sizes, but similar in pattern and material. All are made of catlinite, often known as red pipe-stone, and all are straight bowls without stems.

(e) Two spear-heads made of a variety of quartz between agate and flint. These spear-heads are translucent and their workmanship is of high order. The smaller of the two is shown full size in plate xxxii, *a*. Its length is $5\frac{3}{16}$ inches and its greatest width $2\frac{5}{8}$ inches. It is deeply barbed at the base and serrated along the edges.

(f) Two shell scoops or spoons, made from *Unio* or freshwater mussel shells. The length of one of these is $4\frac{1}{8}$ inches and its width $2\frac{1}{2}$ inches; it is formed from the valve of the shell. It has a short handle cut upon it, and notches on the margin. It somewhat resembles the scoop commonly used by druggists.

(g) Several *Unio* valves without cutting or other ornamentation.

The following were found near the top of the mound:

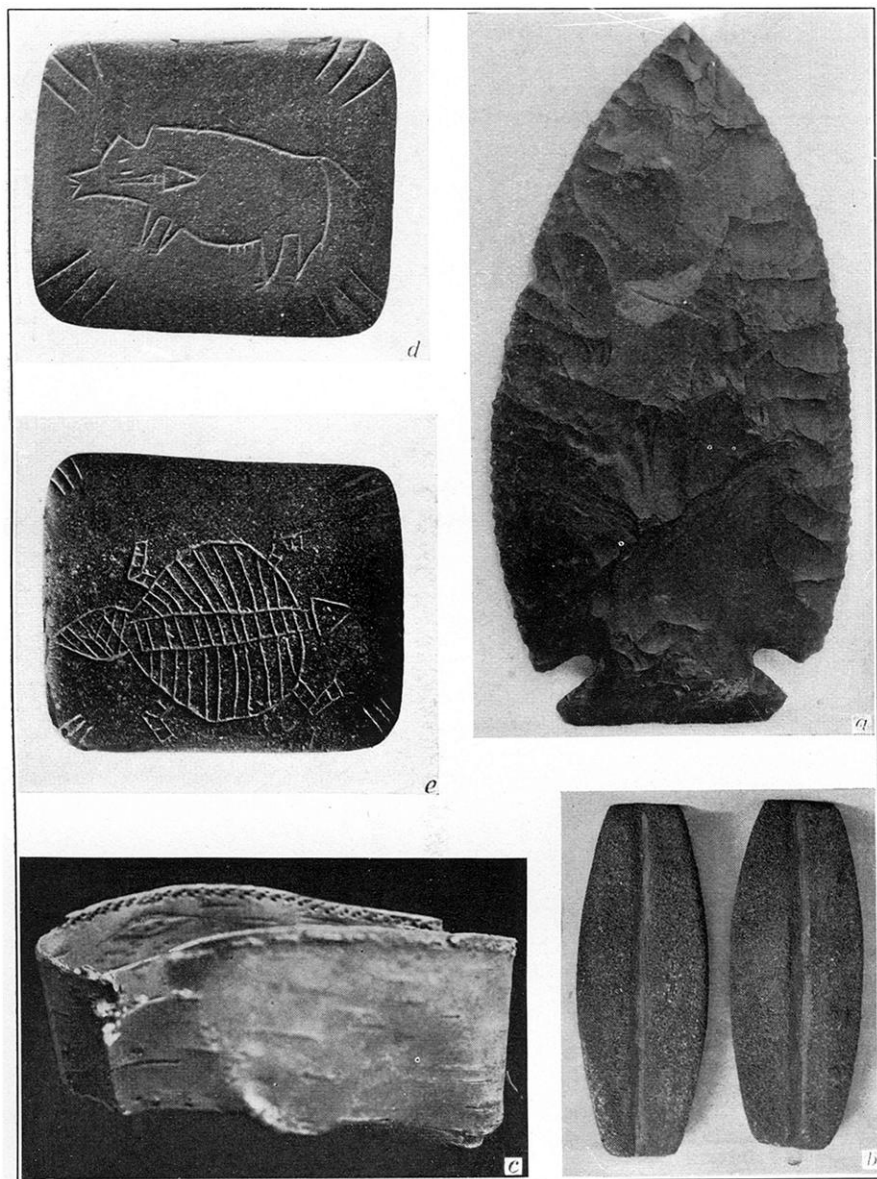
(h) One oblong gray sandstone, grooved deeply on one side, perhaps intended for use in sharpening bone awls, needles, and skewers.

(i) One round stone much like a concretion.

Mound 2. — The second mound on this section of land possessed a well-defined burial pit with only a few bones in it.

Mound 3. — The third mound was 40 feet in diameter and about 4 feet in height. It contained a well-defined pit 5 feet 8 inches in diameter and 2 feet 10 inches in depth. The total depth of the pit from the summit of the mound was 7 feet. The contents of this chamber were the fragments of an urn, apparently broken by a badger, one birch-bark basket, one *Unio* valve, and four human skulls in a poor state of preservation.

Mound 4. — The next mound on this section had a grave the bottom of which was six feet beneath the surface of the mound. It contained a small catlinite pipe (pl. xxxiii, *h*), also a bone fishing-spear with three tines (pl. xxxiv, *i*), and two human skeletons.



STONE OBJECTS AND BARK BASKET FROM NORTH DAKOTA

a. Spear-point of agate from mound in Ramsey county. *b.* Grooved sandstone arrow and needle sharpeners found near surface of mound. *c.* Birch-bark basket from burial pit. *d, e.* Carved animal figures on both sides of a flat piece of catlinite.

Mounds on Section 12, Range 65, Township 153

Mound 1 had a distinct pit containing one human skeleton, and a birch-bark basket with rows of holes for thread.

Mound 2 contained two burial pits about 15 inches apart. One of these was 4 feet in diameter, the other $4\frac{1}{2}$ feet. From them were taken several human skeletons, three broken pottery vessels, and three baskets of birch-bark showing rows of holes where stitches of some kind of thread had formerly been. Plate xxxii, *c*, shows one of these baskets, half its diameter.

Mound 3 measured 30 feet in diameter and 4 feet in height. Numerous charred poles were found from a foot to two feet beneath the surface. There was one circular chamber with a diameter of 3 feet and a depth of 2 feet 10 inches. The depth of the pit from the summit of the mound was more than 6 feet. This pit contained :

(*a*) One complete skeleton of a man upward of six feet in height. It was plainly in a crouching posture with the back against the wall. The cranial index is 78.4. In close proximity to this skeleton there were found the following :

(*b*) One flat piece of catlinite, or red pipestone, having the figure of an animal carved on each side (pl. xxxii, *d*, *e*). One of the carvings is probably intended to represent a beaver, and the carving on the other side of the stone represents a buffalo cow with open mouth, and having the "line of life" drawn from the mouth toward the heart.

(*c*) Two pieces of broken pottery urns.

(*d*) Two complete pearly shell rings ornamented with copper, and pieces of two similar pearl rings. Each ring measures $1\frac{3}{4}$ inch in entire width, and the width of the shell itself is three-sixteenths of an inch. The metal decoration is a thin, flattened piece of native copper, somewhat ribbon-shaped, half an inch in width and $1\frac{1}{8}$ inch in length, and wrapped around the ring at its thickest part.

(*e*) One shell spoon or scoop.

(*f*) One *Unio* shell.

(*g*) One univalve marine shell (*Marginella apicina*), perforated and probably intended for a pendant or bead.

(h) One tine of a deer's antler, perforated by an ellipsoid aperture.

(i) A piece of a large fossil Ammonite shell, a fossil plentiful in the bad-lands of South Dakota.

(j) There were also a complete human skull and some ribs in the same chamber, directly opposite the man's skeleton previously mentioned. These bones are probably those of a woman.

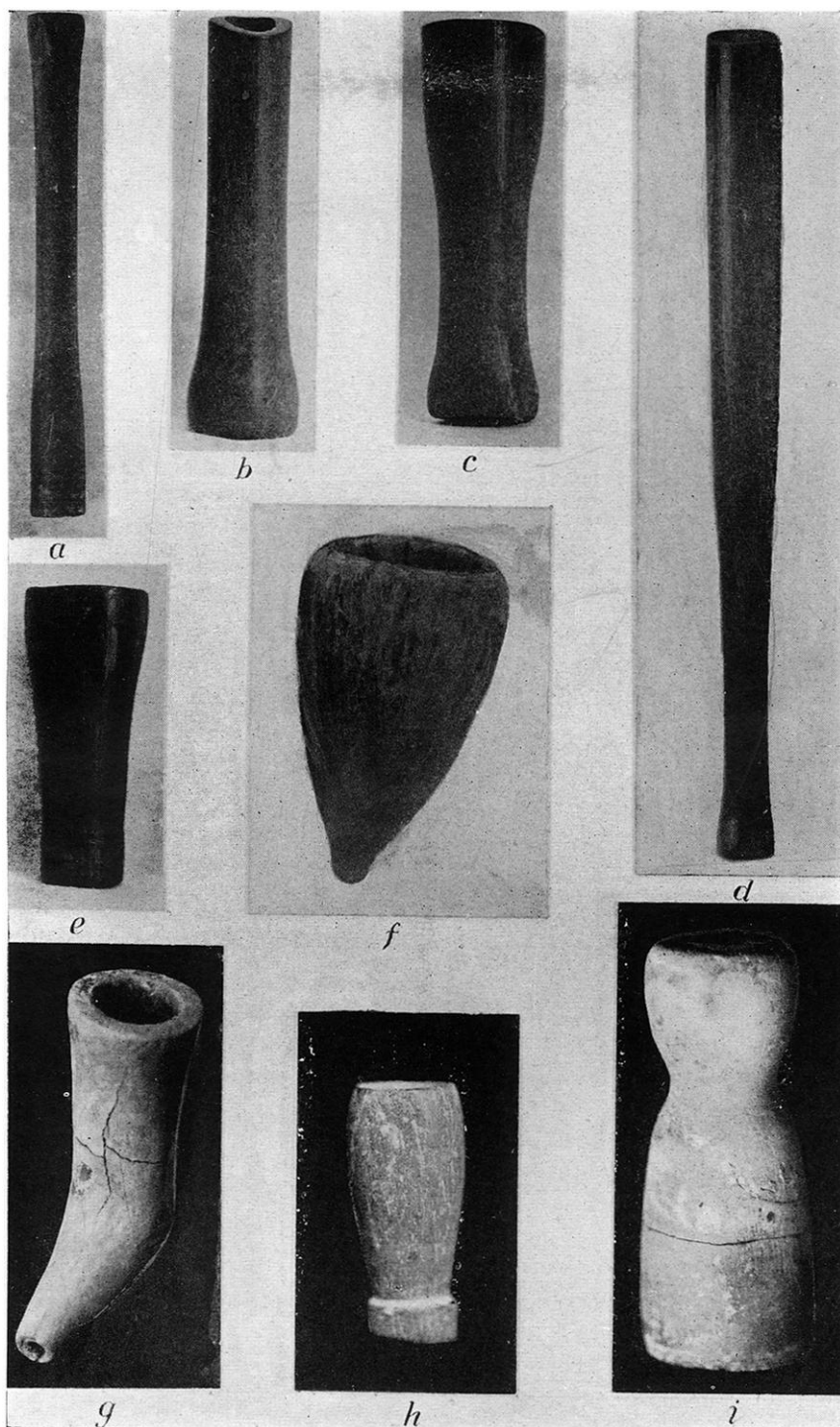
Mound 6.—This mound had a circular burial pit containing three human skeletons; one earthen urn having a continuous spiral groove running around it and terminating at the center of the under surface (pl. xxxi, *d, f*); one copper bead (pl. xxxiv, *f*); two catlinite pipes; three small bone needles; five large bone tubes, or beads, or perhaps pipe-stems, made from the wing-bones of a large bird, probably the pelican; one bone spear, with hooks or tines on one side; one horn implement, curiously cut and carved; one small perforated antler; one larger perforated antler; and a small heap of red paint. One of the stone tobacco pipes is $5\frac{1}{8}$ inches in length, and both exhibit distinct evidences of use in the smoking of tobacco, possibly the species *Nicotiana rusticum*.

Mound on Section 6, Range 64, Township 153

This mound contained charred poles at the usual depth, and one circular burial pit about $3\frac{1}{2}$ feet in diameter and 2 feet in depth. In the pit were two decomposed human skeletons; one broken bone article, probably a bracelet; and one clay pipe bowl, light gray in color, apparently baked, showing marks of use. This pipe was straight and somewhat like the catlinite pipes in general shape. It exhibits somewhat better workmanship than the large clay pipe found on Sully's hill near Fort Totten. (See pl. xxxiii, *i*).

Mounds on Section 19, Range 63, Township 155

Mound 1 contained no definite grave or pit and no wood, but it bore evidences of fire in the presence of a hard, nearly circular bed of ashes and charcoal about five feet in diameter. Several human bones were scattered throughout the mound, but none of them had been burnt. Among the things found in this mound may be mentioned two large beads made from the columella of a heavy marine shell, perhaps *Busycon* (pl. xxxiv, *d*).



PIPES FROM NORTH DAKOTA MOUNDS

a. Pipe-bowl of catlinite. *b.* Piece of catlinite pipe-bowl which had been cut off before burial. *c.* Catlinite pipe, $2\frac{1}{4}$ in. in length. *d.* Large bowl of catlinite pipe, $10\frac{1}{4}$ in. long; from Ramsey county. *e.* Catlinite pipe-bowl found with the piece of pipe shown in *b.* *f.* Pipe-bowl made from deer antler; length about 4 in. *g.* Clay pipe, bent; length 5 in.; found in burial pit in Benson county. *h.* Catlinite pipe-bowl, $1\frac{1}{2}$ in. long. *i.* Straight bowl of clay pipe; length $2\frac{3}{4}$ in.; found in burial pit in Ramsey county.

Mounds 2 and 3 were each about 30 feet in diameter and 2 feet high. They were connected by a short earthen ridge.

Mounds on Section 18, Range 63, Township 155

Two mounds on this section were connected by a wide ridge 110 feet in length. One of these mounds had a burial pit which contained human skeletons, and large marine shell beads made from the columella of a gasteropod shell, probably *Busycon perversum*.

MOUNDS IN BENSON COUNTY

Mounds on Range 65, Township 152

Mound 1 was on Sully's hill, immediately south of Devils lake, and about 145 feet above the level of the latter. It had charred wood, and two circular burial pits that had been excavated in shale. One pit contained four human skeletons, four perforated marine shell beads (pl. xxxiv, *g*), fifteen pearly shell pendants, and two large marine shell beads, similar to those found on Section 19, Range 63, previously described. The other pit contained nine human skeletons, greatly decomposed, and one large, curved, clay pipe about five inches in length (pl. xxxiii, *g*).

Mound 2 had two burial pits containing four human skeletons, greatly decomposed.

Mound 5 had at a depth of two feet a bed of ashes, charcoal, charred and partly burnt wood, and many charred and partially burnt bones of man and other animals. The greater part of a human skull, also burnt, was removed by me from this bed, as well as partly burnt jaws and skulls of bears and other animals. All these were in the ash bed, which was about six feet in diameter and occupied the center of the tumulus. No chamber or pit was found, although a thorough and extended exploration of the mound was made. It appeared to me that the contents of this mound indicated feasting of some kind — whether cannibalistic feasts or religious rites once held upon the mound, it may be difficult to determine. The mound externally had the shape and appearance of a typical burial mound.

Mounds on Range 64, Township 152

Mound 1 was circular in form, 30 feet in diameter and 5 feet in height; it occupied a conspicuous position on the south of Devils

lake. Sod and black soil to the depth of a foot were removed from the surface, and then red, burnt clay more than a foot in depth was discovered. This latter extended over a large part of the mound. A little charcoal was found, and a very small quantity of half-burnt wood; but there were no human remains. This I regarded as a beacon mound for the purpose of signaling by means of a bonfire. A long earthen ridge, 3 feet high and 3 feet wide, occurred within twelve feet of this tumulus, on the side remote from the lake.

Oblong or elongate mounds occurred also east of Fort Totten.

MOUNDS IN WALSH COUNTY

Mounds on Section 32, Range 55, Township 155

There were thirty-five mounds and four long ridges or embankments situated near the head of Forest river. Not all of these are indicated on the accompanying plan (figure 21). A noticeable feat-

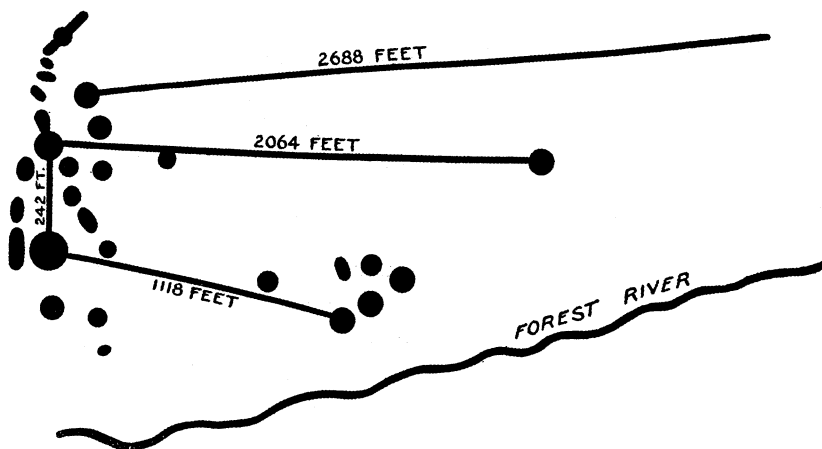
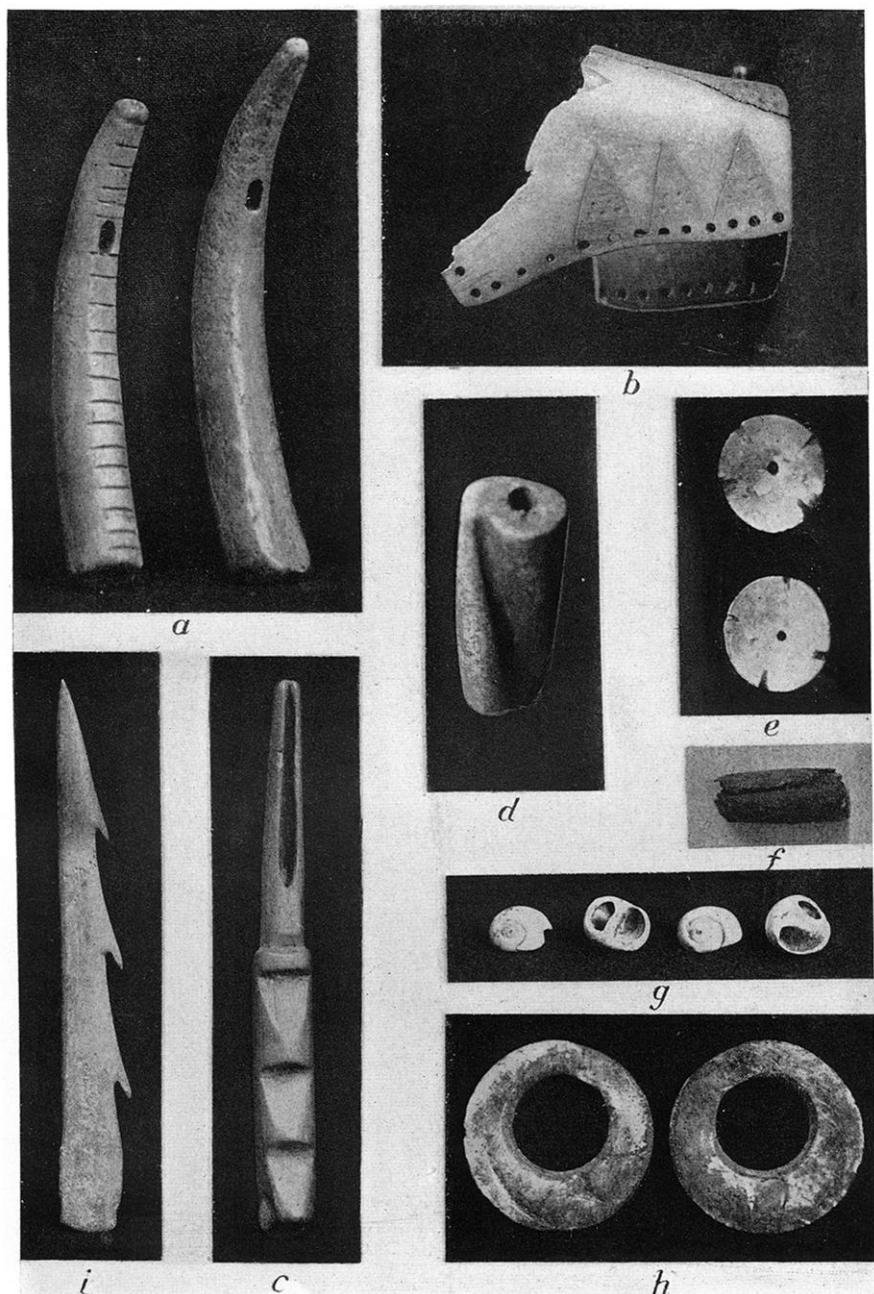


FIG. 21.—Plan of mounds and ridges near Forest river, Walsh county, North Dakota.

ure of these mounds was their great width, many of them ranging from 60 to 90 feet in diameter. A number of them were elongate. Another characteristic was the connection of some of these mounds by long low ridges or embankments. Some of the latter were of great length, being respectively 1,118 feet, 2,064 feet, and 2,688 feet long. The ridges ran in a direct line to the center of the



OBJECTS OF ANTLER, BONE, SHELL, AND COPPER, FROM NORTH DAKOTA MOUNDS

a. Deer antler tines, showing perforations and notches. *b.* Bone anklet, somewhat broken, but showing entire length in front. *c.* Carved tine of a deer's antler. *d.* Bead made from the columella of a marine shell. *e.* Pearly shell buttons or ornaments, perforated and notched; found with the anklet shown in *b.* *f.* Flat piece of copper coiled into a bead. *g.* Small marine shells perforated by grinding. *h.* Pearly shell rings, probably a portion of a necklace. *i.* Bone fishing spear.

mound in the case of all the five mounds considered. Similar but shorter connecting ridges occurred in Benson and Ramsey counties.

Mound 1 had a diameter of 90 feet and a height of 12 feet. A thin layer of yellow clay was discovered four or five feet beneath the surface; this covered an area twenty feet in diameter. Of about a dozen human skeletons only three were in condition to be removed. In addition to these there were twenty-two pearly shell rings with one oblong piece, four beads of a heavy marine shell, two large birch-bark baskets, one pipe made from a large antler or bony horn and somewhat pear-shaped, and a small heap of sticky clay, soapstone, and red ocher. Two of the rings are shown in plate xxxiv, *h*; they probably formed part of a necklace.

Similar oblong shell pieces were found in two pits in the mounds in Benson county. The horn pipe is represented in plate xxxiii, *f*.

Mound 2 was connected with Mound 1 by a ridge or embankment 242 feet long and 14 feet wide. It was connected with another mound also by a ridge 2,064 feet long and 12 feet wide. The ridges were nearly 3 feet high when first observed by the writer in 1883, but tillage had reduced their height to about 15 inches six years later.

Mound 5 contained charred wood and two burial pits. The latter were each about 4 feet in diameter and $2\frac{1}{2}$ feet in depth. The bottom of each pit was about $7\frac{1}{2}$ feet below the mound's summit; and the pits were about 9 inches apart. One of them contained four human skeletons, a heap of red ocher more than a pound in weight, and a copper article. The other pit had bark covering the bottom, and contained nine human skeletons, one marine shell bead, and a perforated antler.

MOUNDS IN GRAND FORKS COUNTY

Mounds on Range 50, Township 151

Mound 1, in the city of Grand Forks and on the left bank of Red river, when first seen by the Hon. M. L. McCormack in 1870 was twelve feet high; but after many years of cultivation its height became reduced to about six feet in 1888, when I undertook its exploration. Its diameter was seventy-five feet. No burial pit or wood was found, but it contained bones representing twelve human

skeletons, overlaid with two inches of yellow clay. As the owner desired the soil of this mound for the improvement of a neighboring lawn, under the direction of the writer the mound was completely removed and it yielded more than six hundred two-horse wagon loads of black soil.

In Roberts, Brown, Marshall, and other counties of South Dakota there have been numerous earth tumuli very similar to those of Ramsey, Walsh, and other northern counties.

When the military post Fort Sisseton existed in South Dakota upward of forty tumuli were counted within a few miles thereof. They occurred in groups of four to seven, situated upon small natural elevations. Their average diameter was about forty-five feet, and the human skulls and other objects which the writer has seen taken from them bore close resemblance to those taken from the tumuli previously described.

The foregoing are examples of the mounds of the Northwest. They show considerable care and intelligence on the part of those who reared them. By means of wooden, stone, and bone implements their builders succeeded in digging smooth-walled, regularly-formed circular graves, and in interring their dead in a manner much better calculated to preserve indefinitely the bodies and their accompaniments than the methods practised by many civilized peoples at the present time. The interior of the mounds was extremely dry in every instance; this was due to the mode of structure and partly also to the climate. A striking feature to be observed here is the uniformity in the structure of many of the mounds.

Measurements of many crania show the mesocephalic index.

The builders of the mounds procured the copper from Michigan or its vicinity, and the catlinite from Minnesota. They obtained some of the shells from the Gulf of Mexico or the Pacific ocean, probably through trade, and the remaining shells were taken from the rivers. The bark of the birch tree was transported one hundred or two hundred miles. The catlinite pipes are all of one shape, straight and stemless. Some of the cut pieces of hollow wing-bones of the larger birds may have served as stems. The clay pipes are of two forms, straight and curved. These and the antler

pipes seem to have been fewer in number than those made of catlinite. The pottery is confined to urns ; these were fairly plentiful, however, and they appear to have been all or nearly all in perfect condition at the time of their interment. It is worthy of note that no pottery, broken or otherwise, was found upon the surface of the ground.

Both in their pottery and in their mode of burial the prehistoric mound-builders of the Dakotas differed very widely from the prehistoric people of Utah and the Southwest. That they were akin in culture to the mound-builders of the Mississippi valley there can be no doubt ; yet they differed from them in some respects. In their pottery, as pointed out by Professor Holmes, and in their straight tubular pipes, they possessed types peculiar to themselves. They also occasionally reared elongated mounds and they connected some of their tumuli by very long earthen ridges.

THE MUSEUM,

UNIVERSITY OF TORONTO.